

What is claimed is:

1. A method of processing inter-switch call control data in a switched telecommunications network including both first and second switches interconnected by a trunk group and a call mediation platform, the switches and mediation platform interconnected by a signaling network, the method comprising the steps of:

receiving, at said call mediation platform, call control data associated with a call;

processing said call control data at said mediation platform;

negotiating call setup of the call between the first switch and the mediation platform specifying a trunk of the trunk group; and

negotiation call setup of the call between the mediation platform and the second switch specifying said trunk.

2. The method of claim 1 wherein said first switch is a tandem switch receiving the call from a remote third switch.

3. The method of claim 2 wherein said second switch is a tandem switch connected to an end office switch of the switched telecommunications network.

4. The method of claim 2 wherein said second switch is an end office switch of the switched telecommunications network.

5. The method of claim 1 further comprising a step of connecting said call between the first and second switches over said trunk.

6. The method of claim 5 wherein said step of connecting said call bypasses routing the call through the mediation platform.

7. The method of claim 1 further comprising steps of:  
extending said call using said trunk to said second switch;

receiving said call at an end office switch of the switched telecommunications network; and

terminating said call to a telephone line served by said end office switch.

8. The method of claim 1 further comprising a step of identifying call processing in said switched telecommunications network requiring mediation.
9. The method of claim 1 further comprising a step of establishing a routing protocol to route, over selected trunks of said trunk group, selected calls processed at the first switch and destined to a corresponding end office switch of the switched telecommunications network.
10. The method of claim 1 wherein said step of receiving includes receiving an ISDN User Part (ISUP) message and said step of processing includes validating said ISUP message.
11. The method of claim 10 wherein said validating step includes performing a security check.
12. The method of claim 10 wherein said validating step includes comparing said ISUP message with a template.
13. The method of claim 10 wherein said validating step includes identifying an originating point code and, in response, selecting ISUP message checking criteria, and validating said ISUP message based on said ISUP message checking criteria.
14. A method of processing inter-switch call control data in a switched telecommunications network including first, second, third and fourth switches pair-wise interconnected by respective trunk groups and a call mediation platform, the switches and mediation platform interconnected by a signaling network, the method comprising the

steps of:

translating each of said third and fourth switches to include said call mediation platform as an intermediate switch (i) between said third switch and said first and second switches and (ii) between said fourth switch and said first and second switches;

coordinating trunk numbering so that a reference to a specific trunk by each of said third and fourth switches correspond to a reference to the corresponding trunk by said first and second switches, respectively;

receiving, at said call mediation platform, call control data associated with a call;

processing said call control data at said mediation platform;

negotiating call setup of the call between one of said third and fourth switches and the mediation platform specifying one of said numbered trunks; and

negotiation call setup of the call between the mediation platform and one of said first and second switches specifying said one numbered trunk.

15. A method of processing a call received at a protected network from a remote network, the method comprising the steps of:

receiving, at an interconnecting switch, a call to a subscriber on the protected network;

selecting a trunk connecting the interconnecting switch with a remote switch;

transmitting a first IAM from the interconnecting switch to a gatekeeper platform;

decoding the first IAM at the gatekeeper platform;

validating the first IAM at the gatekeeper platform;

updating a call state of the trunk;

generating a second IAM containing call information included in said first IAM;

transmitting said second IAM from the gatekeeper platform to the remote switch;

validating the call at the remote switch based on the second IAM;

returning a first ACM from the remote switch to the gatekeeper platform;

validating the first ACM;

returning a second ACM from the gatekeeper platform to the interconnecting switch; and

continuing to process subsequent ISUP messages associated with the call.

16. The method of claim 15 wherein said first IAM and said first ACM each include a destination point code designating an address of the gatekeeper platform.
17. The method of claim 15 wherein step of validating the call at the remote switch includes checking a trunk number of the trunk and dialed number information contained in said second IAM to ensure that the call is valid.
18. The method of claim 15 wherein said step of validating the first IAM at the gatekeeper platform includes checking a state of the protected network.
19. The method of claim 15 wherein said step of validating the first IAM includes steps of:
  - selecting call processing criteria; and
  - comparing information associated with said first IAM with said call processing criteria,wherein said step of generating a second IAM is responsive to said comparing step.
20. The method of claim 19 wherein said step of selecting call processing criteria includes selection of a template.
21. The method of claim 15 wherein said step of validating the first IAM includes a step of authenticating a call origination switch identity.
22. A switched telecommunications network comprising:
  - first, second, third and fourth switches;
  - a first trunk group interconnecting said first and third switches, said first trunk

group including trunks having a first set of trunk numbers; and

a second trunk group interconnecting said first and fourth switches, said second trunk group including trunks having a second set of trunk numbers, said trunk numbers of said second set of trunk numbers being different from said trunk numbers of said first set of trunk numbers; and

a third trunk group interconnecting said second and third switches, said third trunk group including trunks having a third set of trunk numbers; and

a fourth trunk group interconnecting said second and fourth switches, said fourth trunk group including trunks having a fourth set of trunk numbers, said trunk numbers of said fourth set of trunk numbers being different from said trunk numbers of said third set of trunk numbers;

a call mediation platform responsive to call control data received from said third and fourth switch to negotiate call setup and tear down of a selected trunk of said trunk groups with a destination one of said first and second switches,

said first, second, third and fourth switches including appropriate translations to include said call mediation platform as an intermediate switch, calls between said switches being routed on uniquely numbered trunks

23. The switched telecommunications network of claim 22 wherein said third and fourth switches are tandems receiving the calls from a remote switch.
24. The switched telecommunications network of claim 22 wherein said first through fourth trunk groups bypass said mediation platform, directly connecting the switches.
25. The switched telecommunications network of claim 22 further comprising an end office switch configured to terminate at least a portion of said calls to respective called telephone lines.
26. The switched telecommunications network of claim 22 wherein said call control

data includes ISDN User Part (ISUP) messages.

27. A switched telecommunications network comprising:
  - an interconnecting switch;
  - a remote switch;
  - a trunk group connecting and configured to communicate telephone calls between said switches;
  - a gatekeeper platform; and
  - a signaling network connecting said switches and said gatekeeper platform, said interconnecting switch configured to
    - (i) receive a call to a subscriber on the network,
    - (ii) select a trunk a trunk from said trunk group, and
    - (iii) transmit a first IAM to said gatekeeper platform on said signaling network,
 said gatekeeper platform configured to
    - (i) decode and validate the first IAM,
    - (ii) update a call state of the trunk, and
    - (iii) generate and transmit to said remote switch on said signaling network a second IAM containing call information included in said first IAM,
 said remote switch configured to
    - (i) validate the call based on the second IAM, and
    - (ii) return a first ACM from the remote switch to the gatekeeper platform.
28. The switched telecommunications network of claim 27 wherein said gatekeeper platform is responsive to said first ACM to generate and return a second ACM to the interconnecting switch, and wherein said switches and gatekeeper continue to validate and exchange ISUP message in support of call setup, call tear down, and other ISUP functions.
29. A method of validating a call setup message received on a switched

telecommunication network, the call setup message associated with a call to be routed by the network, the method comprising the steps of:

identifying a subset of trunks connecting an interconnecting switch with a protected switch;

generating routing tables logically inserting a mediation platform as a switching node along a path connecting said interconnecting and protected switches;

transmitting said call setup messages to said mediation platform in lieu of said protected switch; and

extending the call from the interconnecting switch to the protected switch on the subset of trunks, bypassing said mediation platform.

30. The method of claim 29 further comprising the steps of:

receiving a first ISUP message from said interconnecting switch at said mediation platform, validating it, and, in response, generating and transmitting to said protected switch a second ISUP message;

receiving a third ISUP message from said protected switch at said mediation platform and, in response, generating and transmitting to said interconnecting switch a fourth ISUP message; and

repeating the steps according to the method for subsequent ISUP messages as necessary and consistent with ISUP protocol.